Remarks:

Reconsideration of the application is requested.

Claims 1 and 3-8 remain in the application. Claim 1 has been amended. Claim 2 has been cancelled.

In the section entitled "Claim Rejections - 35 USC § 103" on pages 2-5 of the above-mentioned Office action, claims 1-2 and 4-6 have been rejected as being unpatentable over Kitagawa et al. (US Pat. No. 5,198,690) under 35 U.S.C. § 103(a); claim 3 has been rejected as being unpatentable over Kitagawa et al. in view of Henry et al. (US Pat. No. 4,570,172) under 35 U.S.C. § 103(a); claim 7 has been rejected as being unpatentable over Kitagawa et al. in view of Ishikawa et al. (US Pat. No. 5,488,233) under 35 U.S.C. § 103(a); and claim 8 has been rejected as being unpatentable over Kitagawa et al. in view of Liau et al. (US Pat. No. 4,784,722) under 35 U.S.C. § 103(a).

The rejections have been noted and claim 1 has been amended in an effort to even more clearly define the invention of the instant application. More specifically, the feature of claim 2 has been added to claim 1.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful.

Claim 1 calls for, inter alia:

> said first semiconductor layer absorbing part of the visible light of the first color and said first semiconductor layer re-emitting visible light of a second color having a second wavelength, the second color being different from the first color, and the second wavelength being longer than the first wavelength;
>
> said semiconductor chip emitting the visible light of the second color together with the visible light of the first color; and
>
> said first semiconductor layer and said second semiconductor layer being configured to emit white light from said semiconductor chip.

Claim 1 of the instant application recites a semiconductor component which emits visible polychromatic light and has a first semiconductor layer with a first band gap and a second semiconductor layer with a second band gap larger than the first band gap. The first semiconductor layer absorbs light of a first color, which is emitted from the second semiconductor layer, and re-emits visible light of a second color with a second, longer wavelength than the wavelength of the first color. The semiconductor component then emits a mix of light of the two colors, especially white light.

In contrast, Kitagawa et al. only disclose LED elements with a pn-junction, made of II-VI semiconductor layers, in which the p-layer contains M, Be and Te (M = Cd or Zn) and the n-layer essentially contains zinc as semiconductor material. Kitagawa

et al. describe a series of examples of possible arrangements of such layers in a semiconductor component.

Example 10 of Kitagawa et al., to which the Examiner refers, describes a component having a GaP substrate, an epitaxial n-layer of ZnS:Ga, and an epitaxial p-layer of CdBeTe:As. The GaP substrate is excited by a part of blue light (460 nm) emitted at the pn-junction and emits green light (550 nm). By combining with an additional LED made of GaAsP or GaAlAs, it is possible to produce white light. However, Kitagawa et al. do not disclose the generation of light with mixed colors, especially white light, by a mixture with a radiation, which is obtained through exciting a second semiconductor layer with the radiation of a first semiconductor layer.

With a wavelength difference of about 100 nm between green light and blue light, Kitagawa et al. concern the making of a variable tone device (see column 12, line 15), but not light with mixed colors. Although Kitagawa et al. mention the generation of white light (see column 12, lines 20-23), Kitagawa et al. do not mention anywhere exciting a second semiconductor layer with the radiation of a first semiconductor layer. Rather, Kitagawa et al. expressly mention the use of an additional LED to generate white light. The emitted radiation of the additional LED is mixed with green and blue light to produce white light. The advantage of

the invention of the instant application is that white light can be generated within a single LED chip.

In addition, GaP is an indirect semiconductor, which is very ineffective to transform blue light to green light. This makes it clear that Kitagawa et al. do not disclose a LED that emits white light, but only a LED that emits a radiation of the blue and green spectral range.

It is accordingly believed to be clear that Kitagawa et al. neither show or nor suggest the features of claim 1. Claim 1 is, therefore, believed to be patentable over the art and since claims 3-8 are dependent on claim 1, they are believed to be patentable as well. Claim 2 has been cancelled.

In view of the foregoing, reconsideration and allowance of claims 1 and 3-8 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel would appreciate a telephone call so that, if possible, patentable language can be worked out.

Petition for extension is herewith made. The extension fee for response within a period of two months pursuant to Section 1.136(a) in the amount of $400.00 in accordance with Section 1.17 is enclosed herewith.

Please charge any fees which might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

Respectfully submitted,

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For Applicants

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Applic. No.: 09/915,985

Marked-Up Version of the Amended Claims:

Claim 1(amended). A semiconductor component for generating visible polychromatic light, comprising:

a semiconductor chip having a first semiconductor layer and a second semiconductor layer adjacent to said first semiconductor layer;

said second semiconductor layer including an electroluminescent region emitting visible light of a first color having a first wavelength;

said first semiconductor layer having a first band gap, said electroluminescent region having a second band gap, said first band gap being smaller than said second band gap;

said first semiconductor layer absorbing part of the visible light of the first color and said first semiconductor layer re-emitting visible light of a second color having a second wavelength, the second color being different from the first color, and the second wavelength being longer than the first wavelength; [and]

said semiconductor chip emitting the visible light of the second color together with the visible light of the first color; and

said first semiconductor layer and said second semiconductor layer being configured to emit white light from said semiconductor chip.